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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,156	09/18/2006	Helmut Konopa	2003P00855WOUS	9474

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EXAMINER	
ZEC, FILIP	

ART UNIT	PAPER NUMBER
3744	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/560,156	KONOPA, HELMUT	
	Examiner	Art Unit	
	Filip Zec	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 5/13/2009 with respect to claims 12-20 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., estimated moisture value) are not recited in the rejected claims 12-20. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The applicant is citing that the fan is controlled based on ***at least one air conditioning parameter***, however Whipple discloses the use of a temperature sensor located in a refrigerated compartment as an air conditioning parameter based on which the controller controls the variable speed of fans (col 5, lines 42-45 and 47-52).

2. Applicant's arguments with respect to claims 21-27 have been considered but are moot in view of the new ground(s) of rejection. This rejection is being made non-final to afford the applicants the opportunity to respond to the new grounds of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 12-13, 17-18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,711,159 to Whipple, III (Whipple).

In regard to claim 12, the FIGURE of Whipple and Modified FIGURE of Whipple, attached, discloses a no-frost refrigeration device (100, FIG. 1 and see col 3, line 49 and col 6, lines 28-34), comprising a storage compartment (110, FIG. 1 and col 3, line 53); an evaporator (152, FIG. 1 and col 4, line 25) which is alternately activated (col 1, lines 24-28) and deactivated, and located (100, FIG 1) in a chamber separated from a storage compartment; a fan (154, FIG. 1 and col 4, line 35); and a control circuit (165, FIG. 1 and col 5, lines 24 and 42-46) which makes an average circulation power of a fan variable during an activation phase of a evaporator based on at least one air conditioning parameter (temperature; col 5, lines 47-58).

In regard to claim 13, Whipple discloses a no-frost refrigeration device, including a fan that can be switched off (col 5, lines 39-40) temporarily during an activated phase of an evaporator.

In regard to claim 17-18, the FIG. 1 of Whipple discloses a no-frost refrigeration device, including an activation phase of an evaporator and a fan can be set to different non-zero speeds (via 165, and col 5, lines 42-46), (as per claim 17); including a control circuit for controlling the operation of an evaporator and a fan is set to operate a fan at one of a plurality of selectable non-zero speeds when an evaporator is activated (as per claim 18).

In regard to claim 20, the FIGURE of Whipple discloses a no-frost refrigeration device, including said control circuit coupled to an air conditioning sensor (176, FIG. 1 and col 6, lines 19-27) that records the at least one air conditioning parameter and said control circuit regulates the speed of said fan using the at least one air conditioning parameter recorded by said sensor.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 14-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whipple in view of U. S. Patent 5,931,011 to Shima et al. (Shima).

In regard to claim 14, it is noted that Whipple does not specifically disclose a no-frost refrigeration device, including a control circuit controlling the operation of an evaporator and a fan set up to intermittently operate a fan during an activated phase of an evaporator (as per claim 14); a method, including controlling the operation of an evaporator. However, Figs. 2-3 of Shima et al. teach an evaporator (13, and see col. 4, ln. 61-62), an intermittently operating fan (18, and see col. 5, ln. 2, and col. 7, ln. 1-4), which by inherency has a duty cycle, and a control circuit (20A, and see col. 5, ln. 9-10), which intermittently operates a fan during an activated phase of an evaporator.

Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Whipple with a control circuit, evaporator and fan as taught by Shima et al. in order to achieve a device and method that would provide a refrigerator with intermittent fan operation based on various operating parameters, therefore allowing a refrigerator to operate more efficiently and therefore more economically.

In regard to claims 15 and 19, it is noted that Whipple does not specifically disclose a no-frost refrigeration device, including a selector switch on which a duty cycle can be set for an

intermittent operation of a fan (as per claim 15); including a selector switch on which a speed for operation of a fan can be set (as per claim 19). However, Fig. 2 of Shima et al. teaches a switch (25, and see col. 5, line 17).

Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Whipple with a switch as taught by Shima et al. in order to achieve a device capable of setting a duty cycle that would provide a refrigerator that provides the user with the ability to further control fan operation, and therefore allow a refrigerator to operate more efficiently and more economically.

In regard to claim 16, the FIGURE of Whipple discloses a no-frost refrigeration device including a control circuit coupled to an air conditioning sensor (176, and see col. 6, ln. 19-27). It is noted that Whipple does not specifically disclose a no-frost refrigeration device wherein a control circuit regulates a duty cycle as a function of the at least one air conditioning parameter recorded by a sensor. However, Fig. 1 of Shima et al. teaches a fan (18, and see col. 5, ln. 2) which intermittently operates (see col. 7, ln. 1-4) and by inherency has a duty cycle.

Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Whipple with a fan which intermittently operates as taught by Shima et al. in order to achieve a device capable of regulating a duty cycle based on an air conditioning parameter, and therefore provide a refrigerator that operates more efficiently and therefore more economically.

7. Claims 21-23 and 26-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whipple in view of U.S. Patent 6,508,408 to Kelly et al. (Kelly).

In regard to claim 21, the FIGURE of Whipple and Modified FIGURE of Whipple, attached, discloses a refrigeration device (100, see col. 6, ln. 28-34) capable of performing a method (160, and see col. 3, ln. 50-51) for operating a refrigeration device (100, see col. 6, ln. 28-34), including a storage compartment (110, and see col. 3, ln. 53); an evaporator (152, and see col. 4, ln. 2) which is alternately activated (see col. 1, ln. 24-27) and deactivated located (100, and see FIGURE) in a chamber separated from a storage compartment; a fan (154, and see col. 4, ln. 35); a control circuit (165, and see col. 5, ln. 24 and 42-46) which makes an average circulation power of a fan variable during an activation phase of an evaporator and it also teaches consequentially the method for operating said device comprising the steps of selecting a circulating power for said fan as a function of a specific air conditioning parameter (via 165, FIG. 1; col 5, lines 42-46) and operating said fan at said selected circulating power (col 5, lines 42-46), but does not teach that said parameter is an estimation of a moisture value in said storage compartment. Kelly teaches a method for controlling the climate control system in a vehicle (col 1, lines 50-52) wherein the air dewpoint temperature is estimated based on a value of relative humidity or moisture (col 1, lines 55-57) and subsequently use said value to offset blower motor speed (col 1, lines 55-63) in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect (col 1, lines 43-47). Even though the system of Whipple is used in a refrigerator and Kelly teaches a system used in a vehicle, "under the correct analysis, any need or problem known in the field of endeavor at the time of the invention and addressed by the present application can provide a reason to one having ordinary skill in the art for combining the elements in the manner claimed. " KSR International Co. v. Teleflex Inc., 550

U.S. ___, ___, 82 USPQ2d 1385, 1397 (2007). Thus a reference in a field different from that of applicant's endeavor may be reasonably pertinent if it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his or her invention as a whole. In this case, both Whipple and Kelly teach systems which disclose a refrigeration device.

Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Whipple, wherein the fan is controlled based on the estimated moisture within the cooled enclosure, as taught by Kelly, in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect.

In regard to claim 22, Whipple and Kelly disclose a no-frost refrigeration device capable of performing a method as described in the rejection of claim 21, and Whipple includes selecting (via 165 and 175, and see col. 5, ln. 42-46) a circulating power to be lower, the higher an estimated moisture value.

In regard to claim 23, Whipple and Kelly disclose a no-frost refrigeration device capable of performing a method as described in the rejection of claim 21, and Whipple includes a fan that can be switched off (col 5, lines 39-40) temporarily during an activated phase of an evaporator.

In regard to claims 26-27, Whipple and Kelly disclose a no-frost refrigeration device capable of performing a method as described in the rejection of claim 21, and Whipple includes setting (via 165, and see col. 5, ln. 42-46) an activation phase of an evaporator and a fan to different non-zero speeds (as per claim 26); and capable of controlling the operation of an

evaporator and a fan and operating a fan at one of a plurality of selectable non-zero speeds when an evaporator is activated (as per claim 27).

In reference to claims 28 and 30, Whipple discloses the no-frost refrigeration device as explained in the rejection of claim 12, but Whipple does not teach that the at least one air conditioning parameter is a moisture value of one of ambient air and air in the at least one storage compartment. Kelly teaches a method for controlling the climate control system in a vehicle (col 1, lines 50-52) wherein the measured relative humidity or moisture (94, FIG. 1; col 1, lines 55-57) is used by the controller (90, FIG. 1) to offset blower motor speed (43, FIG. 1; col 1, lines 55-63) in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect (col 1, lines 43-47). It is noted that the air moisture and air humidity are considered to be the equivalent factor.

Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Whipple, wherein the fan is controlled based on the measured humidity within the cooled enclosure, as taught by Kelly, in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect.

In reference to claim 29, Whipple discloses the no-frost refrigeration device as explained in the rejection of claim 12, but Whipple does not teach that the at least one air conditioning parameter is an estimated moisture value of one of ambient air and air in the at least one storage compartment. Kelly teaches a method for controlling the climate control system in a vehicle (col 1, lines 50-52) wherein the air dewpoint temperature is estimated based on a value of relative

humidity or moisture (col 1, lines 55-57) and subsequently use said value to offset blower motor speed (col 1, lines 55-63) in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect (col 1, lines 43-47).

Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Whipple, wherein the fan is controlled based on the estimated moisture within the cooled enclosure, as taught by Kelly, in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect.

In reference to claim 31, Whipple discloses the no-frost refrigeration device as explained in the rejection of claim 12, and Whipple also teaches that the control circuit makes the average circulation power of said fan variable (col 4, lines 35-37) during the activation phase of said evaporator based on the at least one air conditioning parameter (temperature col 5, lines 49-50 and lines 42-46) but does not teach to use a predefined target value of a humidity of air in the at least one storage compartment as basis for controlling the fan. Kelly teaches a method for controlling the climate control system in a vehicle (col 1, lines 50-52) wherein the air dewpoint temperature is estimated based on a value of relative humidity or moisture (col 1, lines 55-57) and subsequently use said value to offset blower motor speed (col 1, lines 55-63) in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect (col 1, lines 43-47).

Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Whipple, wherein the fan is controlled based on the

humidity within the cooled enclosure, as taught by Kelly, in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect.

In reference to claim 32, Whipple and Kelly disclose the method as explained in the rejection of claim 21, but Whipple does not teach that the circulating power for said fan is selected as the function of said estimated moisture value and a predefined target value of a humidity of air in the at least one storage compartment. Kelly teaches a method for controlling the climate control system in a vehicle (col 1, lines 50-52) wherein the air dewpoint temperature is estimated based on a value of relative humidity or moisture (col 1, lines 55-57) and subsequently use said value to offset blower motor speed (col 1, lines 55-63) in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect (col 1, lines 43-47).

Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Whipple, wherein the fan is controlled based on the humidity within the cooled enclosure, as taught by Kelly, in order to automatically adjust the operation of a climate control setting without producing unnecessarily abrupt or large deviations from the climate control setting otherwise in effect.

8. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whipple in view of Kelly as applied to claim 21 above, and further in view of Shima.

In regard to claim 24, it is noted that Whipple and Kelly do not specifically disclose a no-frost refrigeration device, including a control circuit controlling the operation of an evaporator and a fan set up to intermittently operate a fan during an activated phase of an evaporator (as per

claim 14); a method, including controlling the operation of an evaporator and intermittently operating a fan during an activated phase of an evaporator (as per claim 24). However, Figs. 2-3 of Shima et al. teach an evaporator (13, and see col. 4, ln. 61-62), an intermittently operating fan (18, and see col. 5, ln. 2,and col. 7, ln. 1-4), which by inherency has a duty cycle, and a control circuit (20A, and see col. 5, ln. 9-10), which intermittently operates a fan during an activated phase of an evaporator.

Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Whipple and Kelly with a control circuit, evaporator and fan as taught by Shima et al. in order to achieve a device and method that would provide a refrigerator with intermittent fan operation based on various operating parameters, therefore allowing a refrigerator to operate more efficiently and therefore more economically.

In regard to claim 25, Whipple and Kelly disclose a no-frost refrigeration device capable of performing a method, including sensing (176, and see col. 6, ln. 19-27) an air conditioning parameter. It is noted that Whipple and Kelly do not specifically disclose a method for operating a refrigeration device and regulating a duty cycle as a function of a sensed air conditioning parameter. However, Fig. 1 of Shima et al. teaches a fan (18, and see col. 5, ln. 2) which intermittently operates (see col. 7, ln. 1-4) and by inherency has a duty cycle.

Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the apparatus of Whipple and Kelly with a fan which intermittently operates as taught by Shima et al. in order to achieve a device capable of regulating a duty cycle based on an air conditioning parameter that would provide a refrigerator that operates more efficiently and therefore more economically.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent Application Publication 2004/0177630 to Umebayashi et al teach a vehicle air conditioner.

U.S. Patent 7,102,501 to Lo Presti et al. teach a device and method for automatically preventing misting of the windscreen of a vehicle.

U.S. Patent 6,427,454 to West teaches an air conditioner and controller for active dehumidification while using ambient air to prevent overcooling.

U.S. Patent 4,984,433 to Worthington teaches an air conditioning apparatus having variable sensible heat ratio.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Filip Zec whose telephone number is 571-270-5846. The examiner can normally be reached on Monday-Friday, from 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisors, Frantz Jules or Cheryl Tyler can be reached on 571-272-6681 or 571-272-4834, respectively. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. Z./
Examiner, Art Unit 3744

/Cheryl J. Tyler/
Supervisory Patent Examiner, Art Unit 3744

9/28/09